

UPGRADE
WORKSHOP

INTRODUCTION

A fast, modern DVD writer is particularly useful in a notebook. You can use it to back up large amounts of data on DVD-R or to transfer files to another PC via rewritable discs. A DVD-ROM drive lets you watch films on long journeys, but with a DVD writer you can also burn your own home movies.

Many notebooks built in the past few years can write only to CD and some have no optical drive. As notebooks are generally harder to upgrade than desktop PCs, you'd be forgiven for thinking that if you get a so-so optical drive, you're stuck with it.

In fact, there are many ways to upgrade. You could buy an external drive that connects via USB or FireWire. But in many notebooks you can fit a new internal drive.

In this month's *Upgrade Workshop*, we'll guide you through choosing and installing a replacement optical drive for your notebook PC.

Alan Lu
PC systems and
storage expert

alan@computershopper.co.uk



Fit an optical drive to your notebook

Do you want to watch DVD movies and burn new discs on your notebook? If your current notebook isn't capable you may be able to upgrade it with standard parts, as Alan Lu explains

FASCIA This trim is usually secured with simple clips. You'll need to transfer the fascia from your old drive to the new one, but not all drives and fascias are compatible (see the compatibility checklist below)

DIMENSIONS Desktop drives are far too big to fit in a notebook. Slimline notebook drives are much thinner and lighter, and should fit in most recent notebook PCs

PATA INTERFACE A slimline optical drive has only one connector, which carries both data and power



MOUNTING RAILS These are often essential for mounting an optical drive and suitable ones should be supplied with the notebook chassis. In most cases, they'll be fitted to your existing optical drive

SCREWS An optical drive should come with screws for attaching mounting rails. Alternatively, you could reuse those from your old drive. The wrong screws may snag in your notebook or destroy the screw holes' thread

Modern notebook optical drives are a standard shape and size and have screw holes in specific places. Notebooks use different methods to secure the drive, though, such as rails or a proprietary enclosure. It's important that you buy the right drive and have any accessories needed to fit it. If you have an old or ultra-portable notebook without a built-in optical drive, it's unlikely to have the necessary slot for one. On some budget models, however, there may be a slot for an optical drive that's covered by a blanking plate; check with the manufacturer whether this is accessible and that you have or can obtain the necessary mounting rails and screws.

Some optical drives sit in a proprietary removable drive bay. The entire module is designed to be swapped with another own-brand drive module. However, some proprietary modules, such as those used by certain Dell

Latitudes, merely enclose a standard drive. You may be able to open the module and replace the drive.

Computers that are more than three years old may not physically be able to accommodate a modern notebook optical drive. Some older notebooks can be upgraded, but only with extensive disassembly.

GETTING STARTED

To make sure a new drive fits inside your notebook, we recommend removing the existing one and checking its shape, dimensions and interface against those shown here; see the compatibility checklist below for details. The BIOS of some notebooks, such as certain Dell Inspirons, supports only certain optical drives. Contact the manufacturer to find out which models you can use with your notebook. They may provide a BIOS update that supports more drives.

Compatibility checklist



PHYSICAL FIT

New slimline optical drives should measure 128x129x12.7mm and have a 50-pin slimline PATA socket. But certain notebooks, particularly models more than three or four years old, may not adhere to these standards. If your current drive has a different interface, you may be able to buy an adaptor from a specialist such as www.mini-itx.com.



WINDOWS DRIVERS

Windows XP Service Pack 2 should automatically recognise your new optical drive, but other versions of Windows might not. You may need drivers to access all your drive's functions, so buy one with suitable drivers for your operating system. Check for drivers and other utilities at the manufacturer's website or third-party sites such as www.driverguide.com and www.driversplanet.com.



SOFTWARE

Unless you have Windows XP and you'll only be writing CDs, you'll need burning software. Boxed drives may come with utilities such as Ahead's Nero, but recent software may not support versions of Windows before 2000. Ulead's BurnNow, from www.tinyurl.com/6vqet, supports Windows 98 SE and Me. You'll also need software to watch DVDs.





Most optical drives have a clip-on plastic fascia that matches your notebook. You'll need to transfer this to a new drive, but not all fascias have the same layout. The eject button is 40mm from the right-hand side of most modern units, but an old drive's fascia may be different. Even if the button is in the right place, the fascia mounts may not fit. Your original drive's fascia is most likely to fit a new drive if both are modern and are made by the same manufacturer. Drives and fascias made since 2004 are more likely to be compatible, but a slot-loading drive needs a different fascia to a tray-loader. You can prise off your existing fascia and take it to a shop for comparison. In the worst-case scenario, you should be able to use a drive with no fascia, but it will look scruffy and be fiddly to eject discs.

We recommend upgrading to a DVD writer, although combo drives, which read DVDs and CDs but can only create CDs, are cheaper. Most modern notebook DVD writers can create write-once and rewritable 4.7GB single-layer DVDs and write-once two-layer 8.5GB DVDs, as well as write-once and rewritable CDs. There are two competing two-layer formats: DVD-R DL (dual layer) and DVD+R DL (double layer). If possible, choose a drive that supports both. Modern writers create single-layer discs at up to 8X and burn two-layer discs at up to 4X speeds. Buy the fastest your budget allows.

If you buy a boxed retail drive, it's likely to include software for viewing DVDs and burning CDs or DVDs, but this may not support older versions of Windows. If you have Windows 98 or Me, you'll need drivers to recognise and use a DVD writer, as discussed in the compatibility checklist. OEM drives are cheaper, but most come without software. A boxed DVD drive should come with DVD playback software, but it may not be compatible with old Windows versions. The free, open-source VLC player, available from www.videolan.org/vlc, isn't officially supported on Windows Me and 98, but works in most cases. Bear in mind that an old

notebook with Windows 98 or Me may not be powerful enough to decode and play DVD movies.

INSTALLATION

Replacing a notebook's optical drive is usually easy, but check that your computer isn't still under warranty. If it is, a failed drive should be covered for repair, while upgrading one yourself will probably invalidate any remaining cover. You should need only a small or medium crosshead screwdriver and a small flat-bladed one.

1 INSTALL DRIVERS AND SOFTWARE

If you need to install drivers for your new optical drive, you should do so according to the manufacturer's instructions. Install the drivers before fitting the drive itself, unless instructed otherwise. You can also install any supplied disc-burning and DVD-playback software before fitting the drive. Allow all installations to finish and make sure you've removed any optical disc from your existing drive before shutting down your notebook: be careful not to enter hibernate or sleep modes. Once the PC is switched off, unplug it from the mains and remove its battery.

2 REMOVE THE EXISTING OPTICAL DRIVE

The exact method for removing your notebook's optical drive varies from model to model. Check your notebook's documentation or use the manufacturer's website or helpline. Lists of notebook maintenance manuals and guides are available at www.tinyurl.com/y6r2jh and www.tinyurl.com/vdt7o.

On most notebooks, the drive is held in place by one or two screws directly beneath it on the underside, as shown above. Place your notebook upside down on a soft, dry cloth to avoid scratching the lid as you remove the screws, which may be unmarked or labelled with icons or

EXPERT TIP

If you have some thread lock compound, apply a tiny amount to each drive rail screw to prevent them working loose over time.

text. Don't undo anything you can't positively identify, and keep any screws in a safe place. Once released, pull on the drive to slide it out. You may need to grip its fascia with your fingernails, but don't be tempted to pull on the disc loading tray. You shouldn't need to use much force; double-check that the drive is free if it doesn't slide out easily.

If your drive is fitted in a proprietary module, you may be able to dismantle the enclosure. This will invalidate its warranty. Some modules clip together, while others are held together by screws that may be hidden under labels. You'll need to reuse the enclosure, so be careful not to break anything. Take notes or photos to help you reassemble it. Once you've opened the case, you should be able to pull the drive free from any proprietary connector.

3 INSTALL YOUR NEW OPTICAL DRIVE

Before fitting your new drive, you'll have to replace its fascia with the one from your original drive. Use your fingernails or a thin, flat-bladed screwdriver to prise the fascia off both drives, but be careful not to break them. Provided the fascia layouts match, they should simply clip back on. In most cases, you'll also need to transfer metal mounting rails between the drives. Note the rails' exact position on your old drive before unscrewing them and fitting them to your new drive without over-tightening the screws.

Once you've attached the correct fascia and, if necessary, screwed on any rail mounts, slide your new drive into your notebook and replace the screws or catches that secure it. If you're replacing the drive in a proprietary module, reattach the connector board and any other mounts or connections before reassembling the module and refitting it to your notebook. Refit your notebook's battery, making sure it's locked in securely.

Testing and troubleshooting

Once you've fitted your new optical drive and installed any necessary drivers, it should be assigned a drive letter automatically. You'll see it listed in My Computer or Windows Explorer. The easiest way to check that your new optical drive is working is to play a DVD movie or burn a disc.

If you need to use significant force to reinsert your drive, check that you've fixed any mounting rails correctly and that the drive is the right way up. If your notebook doesn't recognise your drive, make sure you followed the instructions to install any

necessary drivers for your operating system. If you didn't previously have an optical drive, you may need to enter your BIOS to enable support for one. Check your notebook's manual or support website for instructions.

You may find that an old or low-powered notebook can't write discs at high speeds. For the best results, close any other applications that may be using memory or accessing your hard disk. Defragmenting your disk may help. In Windows 98 or Me, click Start then Run. Type defrag in the box that appears and click OK. In Windows XP, right-click My Computer and

select Manage. Select Disk Defragmenter from the list in the left-hand pane.

If you're having trouble playing DVDs using a software DVD decoder with Windows Media Player under Windows XP, Microsoft's FAQ at <http://support.microsoft.com/kb/306378> may help. If your playback software can't access a DVD movie's interactive content, you may need to use InterActual's DVD player, often supplied on movie DVDs. You can download the latest version and view a series of troubleshooting FAQs on the InterActual site at www.tinyurl.com/yzpkkk.